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ABSTRACT

This paper argues that productive reform in teacher education must comprise the development of a rigorous practical pedagogy. The theoretical element of teacher education courses and practical teaching are incompatible because research looks at the way teaching is rather than the way teaching should be, and because teaching is viewed as comprising nothing more than the "delivery of curriculum." The quintessential reform that is needed in teacher education is one that takes the study of human learning and its relationship to teaching as central. A theory of teaching must be developed that relates to school and classroom and to teaching experiences, that involves "in vivo" pedagogical analysis to reveal classroom problems, and that involves all participants in a form of action research. An effort to integrate theory and practice was developed in a project in which videotape recordings of student teachers and trainee supervisors were analyzed concerning such factors as the presentation of exemplars in concept teaching, the nature of feedback to students, and the nature of evaluation of the teaching. In addition, all participants were expected to conduct action research in the form of an empirical investigation of their own teaching. (JDD)

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F. STONES 1992

REFORM IN TEACHER EDUCATION
THE POWER AND THE PEDAGOGY

ED 363 595

(NOTE: This paper was originally presented by invitation to the annual meeting of the Canadian Association of Teacher Educators. The suggested title was 'Reform in teacher education'. The second part was my addition. I have maintained much of the style of the paper since I felt it was integral to the argument. I hope readers will agree.)

Introduction

The topic I was asked to speak to was an invitation to pontificate and a license to peddle nostrums. I tried (unsuccessfully) to resist these twin temptations when I was thinking about the talk and comforted myself with the recollection of Emerson's words when he said 'every reform was once a private opinion'. Although my message may be private in the sense that I may be the only one holding it, I have no desire to keep it to myself and look forward to its being shared by many others in the field of teacher education.

But first two true stories that could well be taken as texts for what I have to say. The first is J K Galbraith's account of an attempt to get George Bush to change course a little. In an interview with the Guardian newspaper on 25 May he says:

> In the last few weeks, a hundred economists in the US, including all of the progressive, intelligent, economic community, have signed a statement urging a much stronger program against the recession. It was dismissed by Bush in one sentence. I am not even sure he read it.'

In the same spirit, the Journal of Education for Teaching published an article based on a survey of all leading teacher educators in Britain. (Gilroy, 1992) The article opposed proposals by Kenneth Clarke, the then British Minister of Education who when Minister of Health had famously appeared on TV smoking a fat cigar, The proposals were to remove teacher education from higher education and locate it in the schools. Kenneth Clarke, when asked to comment on the JET article, was reported as saying: 'They would say that, wouldn't they?'

Kenneth Clarke has now moved to higher things in the British Government as Home Secretary. I once wrote comfortingly in a JET editorial: 'politicians are transient creatures'. But in a deeper sense we are all transient creatures, nostrum peddlers and power brokers alike. As another economist, Maynard Keynes said: 'In the long run we are all dead'. In other words, it is not enough merely to be seized with structures and try to influence the powerful to mould the scheme of things nearer to our heart's desire. Lasting reform inheres not in administrative and political structures, nor in individuals' nostrums but in peoples' minds.

Most current nostrums for serious reform in teacher education are concerned with such things as organization, structure and location. I have in mind such things as length of course, end-on or concurrent as in B Ed courses: length of practice teaching and curriculum content. I submit that these concerns are of

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peripheral importance compared with the question as to what goes on between the three main participants in student teacher training, the student teacher, the tutor and the cooperating teacher; all within the context of the very complex social environment of school.

Reform by administrative means is child's play compared with understanding and improving these interactions. Management of people and structures is the bread and butter of civil servants and business 'executives'. But their activity is nothing more than froth (some would say scum) on the surface of the deep currents of human interaction that takes place in all teaching-learning situations.

This point is graphically illustrated by recent events in UK. Over the last decade education in the UK has been reformed to death. Politicians imbued with Thatcherite ideology have changed the face of education out of all recognition. With total power in the legislature, successive ministers coming to education for a brief time before moving on to more important and prestigious posts, have played with the school system like children with new toys.

Teacher education has not been spared. By simple government fiat colleges have been closed, those remaining have been subject to increasing central direction dictating course content and organization and, most recently, by the speech by the former minister which announced the transfer of teacher preparation to schools. Most of these changes have been introduced with little or no consultation by the teaching profession or teacher educators. Some of the key influences have been government ideologues most of whom have no experience of education. Others, who have ventured to oppose the government line have paid the price by loss of office.

I believe readers will be familiar with the views of such people since, on a visit to North America a few years ago I collected articles on teacher education from magazines and newspapers. Almost all were disparaging and many were virulent attacks on half-baked theory purveyed in the training institutions and its low intellectual level. Teacher education courses were seen as of no practical value.

Current views of teacher education and its problems

I have a problem defending teacher education against attack. My problem is that I, too, have been very critical of training institutions in the past. My criticism has focused on the lack of attention paid to pedagogy and the divorce between the theoretical element of courses and practical teaching. Perhaps divorce is the wrong word. The two have never been compatible in the first place and there has been no nuptial union. I think there are two reasons for this incompatibility and for the schism between the theory and the practice.

The first reason is the type of theory purveyed in training institutions. Overwhelmingly theory connotes educational studies and educational studies comprised an academic study of such things as educational psychology, sociology etc. For theory to be helpful to teachers in training it needed to be a theory of teaching. You might well say that this is a non-starter since there is no theory of teaching. If that is the case I would reply with the question if there isn't such a theory which professional group has been derelict in its duty?

To shed a little light on the problem I should like to refer to some work I did in the late sixties early seventies. (Stones, 1970) In those days there existed in Britain Institutes of Education which comprised groupings of training colleges in different parts of the country clustered around universities. In one such grouping of 18 colleges, I worked as research director of the Colleges Research Group. The largest project we undertook was an investigation of the educational studies courses in all the colleges. This involved around one hundred members of college staffs who met in committees to consider the objectives and conduct of their courses. This exercise had an interesting outcome when a systematic analysis was done on different elements of colleges educational studies courses such as educational sociology, philosophy etc. The outcome was that these courses which were roughly one sixth of one element of a teacher training course, had syllabuses that resembled closely honors courses for mainline university degrees. Faced with this obviously nonsensical situation attempts were made by some colleges to focus their attention within their disciplines of those aspects that related to work in classrooms. Unfortunately, bureaucratic forces precluded such radical changes. But even if the change had taken place, there was still one more leap to be made before attempts to construct a useful pedagogy could have been made.

The leap that did not take place all those years ago still has to be taken in Britain and most other countries. It is the leap from teaching about the different aspects of educational studies to teaching and demonstrating to student teachers how theoretical input from the fields of study can help their work in classrooms.

It's not just the case that people in teacher education are poised shivering on the brink and finding it hard to launch away. Most are unaware of the need to change and others are unconvinced. For example the Education Section of the British Psychological Society has been agonizing for years about its role in teacher education. At one stage they were arguing that educational psychology in teacher training should only be taught by members of the BPS. They have seen the error of that stance but while many have called for action few have chosen to take any. As one of their number, I have been described as having made 'valiant' attempts to relate teaching and educational psychology but I am still a rogue and an oddity. (Tomlinson, 1992)

The second reason theory and practice have never wed is the persisting view

of practice. Teaching is seen by most of the world outside teacher education and by many within it as comprising nothing more than the 'delivery of the curriculum'. The former British minister of education titled his speech foreshadowing the end of higher education based teacher education, 'Check on delivery'. This note for the press ironically reflects the new business speak. Human interaction is reduced to a commercial transaction. One person delivers a product to another. Shakespeare delivers doubt, irony, pity, resentment, pathos, love. We are moved beyond words by the product Mozart delivered all those years ago which is now passed to us, value added, by entrepreneurs such as Stokowski, Kiri Te Kanawa and Menuhin.

Teaching is commonly considered in the same light. Educationists who do not protest at the delivery view of teaching permit the commodification of vital human relationships. At the same time they forgo all claim to be treated by society as anything more than errand boys and girls.

The other problem with conventional views of practical teaching is slightly more subtle but no less deleterious to the view of teaching as a highly skilled activity involving sensitive human relationships of immense complexity. I refer to the view that one can learn to teach by imitating other teachers. Training institutions that adopt this view concede that teaching is a simple skill and are in great danger of taking a delivery view of teaching. They do this by equating teaching with telling.

It is a commonplace statement that telling is useful for conveying information. Shulman, in an article now cited ubiquitously, talked about the transmission of content knowledge (Shulman, 1986). Statements like this are in urgent need of exegesis. What do their authors intend to convey? I submit that, whatever it is, they betray a simplistic view of teaching which, when accepted uncritically and incorporated into current fashion, closes off discussion of key questions about the nature of human learning and teaching.

No method of teaching can convey information ready made whatever it is. The human brain is not a jug to be filled nor a letter box to receive a delivery. Teaching depends on interaction between human beings not one way traffic. Skilled teaching involves structuring learners' environment so that change will take place to enable learners to do things they could not do before teaching. In my view, the learners should be able to solve new problems.

The hidden depths

The assumption that this change can be brought about by talk is at the heart of the misunderstanding about humans learn and about how we might best teach. The error is compounded when learning is tested by written tests. All too often such tests test nothing more than rote learning. They take as evidence of learning the students' ability to reproduce the teacher's talk when all they are likely to have learned are words. For learning to be useful in the

real world the learner must engage with the world and not just the teacher's talk. Being able to remember the teacher's words is the shadow of learning. The substance demands experience of the real world from which thought derives as well as the immaterial world of the words that symbolize thought.

Here I am touching on what is probably the crucial problem in teaching and teacher education. My last remark really demands elucidation and yet to attempt that would need another paper at least. In essence the problem is that most teacher education courses, in theory and practice, teach student teachers very little if anything about the way human beings learn and what constitutes worth while human learning. The quintessential reform that is needed in teacher education is one that takes the study of human learning and its relationship to teaching as central.

Human learning is encoded in the central nervous system, particularly the brain. It is salutary to reflect that the human brain is the most complex phenomenon on the planet. Teaching involves trying to influence the way other peoples' brains work. Brain surgery is a high prestige profession that involves merely modifying the brain's structure, one brain at a time. The teaching profession, a comparatively low status profession, aspires to change the way brains work, commonly thirty or more brains at once. Teachers need no other justification to argue that their job, far from being a simple skill needing little training, is the most difficult job in the world.

Theory and practice integrated

In order to escape from simplistic views of teaching, it is essential that teacher educators make a serious analytical study of teaching, drawing on theoretical insights from whichever sources seem to offer hope of progress. Such a study must of necessity be located in practical teaching situations. Theory and practice must be integrated in any instruction devised for student teachers.

I am aware of the apparent banality of this last statement. Many teacher educators would aver that all their work integrates theory and practice. I am deeply sceptical of such assertions in view of the lack of attention given to pedagogy. To justify my skepticism and to clarify my own position I shall try to explain the kind of approach that I consider holds promise of fruitful development.

All too often in discussions of teacher education the word 'theory' is used quite unexplicated. All too often it connotes nothing more than what takes place in lectures. And what takes place in lectures all too often comprises little more than what I referred to some years ago as a 'gallop through the gurus' (Stones 1980). Students could reassuringly say:'It must be psychology because we're doing Piaget'. The work of the Colleges Research Group I referred to earlier exposed the inutility of such theory. The decision the group took to concentrate on the task of the teacher in the classroom was the right one. It

was tragic that forces majeurs killed off the project.

The theory that I have in mind cannot be taught in lectures. It is not inert knowledge to be dispensed for students to regurgitate later. It is knowledge that is useful in helping student teachers to teach more effectively. It is not how to teach this subject or that or these children or those. But how to teach: tout court. If it doesn't help students to teach so that they realize that the theory is helpful, then I submit it is not helpful.

Theory must relate to school and classroom and teaching experiences

It is not possible to demonstrate the relevance of theoretical constructs to teaching by lecturing to students. Nor is it good enough to declare, as is often done, that student teachers will see the relevance later when they have been teaching for some time. I think statements of this type are cop outs. They ask students to accept some of the most important aspects of their training as matters of faith whose utility will become clear at some future time by a mysterious process of revelation.

Teacher educators who adopt this approach are derelict in their duties on two counts at least. On the one hand they sell the students short and on the other they shirk their responsibilities to the development of pedagogy. Unless they justify to themselves the relevance of what they are purveying, they, too, are taking their own words on faith with no rational justification.

Pedagogical analysis reveals classroom problems

I suggest that the only way to resolve these problems is through a process of analysis. Not, I hasten to add, by a process of textual analysis of the material in the books or notes one may be using, but by analytical examination in vivo of the constructs that seem to offer useful insights into practical teaching. Thus assertion in lectures is out but pedagogical analysis of practical teaching is in.

Pedagogical analysis takes as its point of departure specific teaching problems. The teaching problems I have in mind are the problems posed by getting a specific group of learners from one level of competence to another that is judged to be higher. Since I take the main aim of teaching to help learners solve problems more effectively, in their school learning and in their lives, the teacher's problem is how best to help learners solve their learning problems effectively.

The teacher educator's problem is how to help the teachers. This involves addressing teaching tasks bringing to bear whatever theoretical constructs and practical experience seem likely to be useful in achieving the teacher's aims and objectives. Focusing like this on specific teaching tasks has great potential for unifying the activity of all involved in teacher education. Teacher educators with an involvement in the 'foundation disciplines' such as educational

psychology, philosophy, history etc will concentrate on the more generic aspects of teaching, such as the nature of human learning, problems of identifying aims and the way similar problems have been tackled in other times and other cultures. Subject specialists will have a more specific focus on the conceptual structure of the subjects being taught. Cooperating teachers in the school will have their own local and personal knowledge, and the student teachers will bring their own knowledge of the subject and experience of classroom life. Nor should we neglect the input we might get from pupils. If the curriculum is relevant to their lives they will have a vested interest in contributing information that might help them with problems that either interest them or, possibly, worry them.

Work of this kind makes greater demands than conventional approaches since all involved have to examine teaching and learning analytically in the light of theory and put theory to the test of practice instead of just talking or listening. However the rewards are much greater since theory and practice illuminate each other. If theory does not seem to work in practice we need to examine both to find out why. It may be that the theory propounded in lectures and standard texts is irrelevant or dysfunctional. It may be that the practice hallowed by time and tradition is just wrong. Testing one against the other helps us not only to determine their utility but also to understand both more fully. We need to be sceptical about folk lore in the form of craft knowledge and also about currently fashionable theory, especially in view of the point I made earlier about the common connotations of the word 'theory'.

Dialectical illumination of theory and practice

We thus have a dialectical interaction between theory and practice that is mutually refining. Since every teaching-learning encounter is unique tutors and student teachers working in this way are engaged in cooperative exploration of new problems that not only enhances their own insight into the veracity and utility of theoretical principles and practical action, but also has the possibility of adding to our body of knowledge about both.

Working in this way opens up a further perspective that all with a genuine interest in teaching and teacher education should find exciting. If we take the study of teaching as our central concern as I have suggested, all participants in the process of teacher training are involved in a form of action research. In 1986 I referred to this form of activity as 'Systemic research on teaching'.(Stones 1986) That is, research becomes systemic to the work of teachers. As theory and practice become unified, so do teaching and research.

Can it be done?

Even if you find my argument interesting you might well wonder how feasible such a program is. I am sure that it is feasible given the will radically to adapt existing institutional structures and consign delivery teaching to the dust bin of

history. It is not only feasible but very rewarding to those involved. I say this on the basis of many years working in this way with teachers of all types of schools and in higher education and with student teachers on different types of course.

The work focused on teaching, not education but drew on ideas from the traditional fields of educational studies. I worked with colleagues with different interests and backgrounds from mine so that we covered most fields we thought important. All work took place in learning groups of around fifteen and in school and in face to face individual meetings either with tutors but also with other students.

Analytical view of teaching

We espoused an analytical view of teaching such as I argued for above. I drew on bodies of principles from psychology that related to human learning and which I thought essential for a rigorous approach to teaching. The kind of thing I focused on were such things as how concepts are learned, how problem solving can be improved, questions about the provision of feedback to learners and how to enhance motivation. There is a body of knowledge about these phenomena in general psychology but very little in relating them to school learning and teaching. My task was to explore with students and teachers the extent to which these principles might be of use to guide them in tackling their teaching problems.

Other colleagues followed similar lines but the crucible in which pedagogical understanding was forged was the discussions which examined and analyzed teaching carried out by the teachers and student teachers. Here what had actually taken place in classroom, whether planned or unplanned was examined and analyzed in the way I mentioned earlier to see to what extent theory was useful and how practice might be improved in the light of theory.

INSET and IT courses: integrating theory and practice

In my particular circumstances I was able to make use of a most interesting form of collaboration between masters and Ph D students on in service training (INSET), all experienced teachers, and student teachers on initial training (IT) courses. The experienced teachers were taking the same type of course in pedagogy as the student teachers but, in addition, were taking a course on the supervision of practical teaching. Thus the trainee supervisors were able to cooperate with the student teachers by acting as supervisors of their practice teaching.

Student teachers and trainee supervisors both taught lessons to learners of a variety of subjects and ages. In addition, the trainee supervisors counselled the student teachers on their teaching. All these encounters were videotaped by unattended cameras using split screen techniques that showed teacher and pupils at the same time and the two participants in counselling sessions: full

face.

The tapes of these encounters were available for discussion by groups of student teachers and trainee supervisors and occasionally mixed groups. The group sessions comprised analysis, by the group, of recordings of teaching and of counselling.

The nature of the group discussion is of paramount importance. It was analytical and it examined the teaching in the light of theoretical principles previously discussed. It did not merely address surface activities such as are commonplace in much discussion of teaching such as tone of voice, use of chalk board or visual aids. It covered such things as the presentation of exemplars in concept teaching, the nature of the feedback provided to pupils and the nature of evaluation of the teaching.

The point is that all the participants had a common realm of discourse that was grounded in general principles. They were thus not constrained as is normally the case to surface matters mainly concerned with delivery that are inevitable when such common discourse is not available.

Let me finally put all this activity in context. All the participants were expected as part of their course requirements to conduct what amounted to a piece of action research in the form of an empirical investigation of their own teaching. The teaching was the empirical investigation. This investigation involved their searching the literature in pedagogy related to their teaching, planning the teaching, teaching and evaluating pupil' learning and finally analyzing the whole operation and drawing attention to the lessons for theory and practice that were learned. The whole of these projects was written up in the form of journal articles reporting a piece of research. The reports produced were genuinely interesting and informative and are the only kind of assessment material that I have ever thought worth keeping.

A very important point arises here. It is that within the training institutions the student teachers' work can also contribute to the body of pedagogical knowledge. Student teachers working like this are transformed from receptacles to be filled as they might be in delivery programs to participants whose efforts are visible and of value.

To a limited extent some cooperating teachers in schools were also drawn into the network of pedagogical activity. They were always welcome in the group work on teaching and also made individual contact. One or two groups of teachers exploring the teaching of specific subjects were formed and one is going over ten years after it was formed.

Undoubtedly the approach enhances the possibility of cooperation among different groups and makes the integration of theory and practice real. I envisage the walls of institutions being permeable so that student teachers and

cooperating teachers and university staff would be able to move freely between them and thus signal in an organizational way that theory and practice were one.

It would not be appropriate here to go into details about the kind of things we discovered about teaching and how our attitudes to its practice and theory developed. This is presented in detail in the many case studies analyzed in Quality Teaching (Stones 1992). However, it would probably be useful to comment on some of the findings related to the feasibility of working in this way and their implications.

Analytical pedagogy, problems and possibilities

Difficulty of pedagogical analysis by teachers

One thing was striking and in my view very significant in view of the attacks made on teacher education I referred to in my opening remarks. All teachers at whatever stage in the education system from the nursery to the university found making a pedagogical analysis very difficult. To a great extent this is to be expected since they will have little experience of the theoretical constructs related to human learning.

However, one aspect of the approach requires an analysis of the content to be taught and might be expected to prove relatively straightforward by teachers with qualifications in the subjects they were teaching. This conceptual analysis is a process whereby the overall content is analyzed to reveal its structures. The idea is to identify the subordinate elements in the overall content so that teaching can be planned in relation to manageable units. For example, an analysis of the concept of 'bearing' in map reading yields the following sub concepts: compass readings are taken in a clockwise direction, the amount of turn from one direction to another is called an angle, angles are measured in degrees, bearings are measured in the horizontal plane, the direction of a bearing is in relation to magnetic north. There were other sub-concepts all related to the concept of bearing. What one is looking for are the criterial attributes of the concepts one is hoping to teach. That is those aspects of a phenomenon that must be present for it to be an exemplar of a particular concept. Directions that did not include the subordinate elements of bearing as given would not qualify as exemplars of the concept 'bearing'.

The striking thing is that teachers and graduate student teachers all found making analyses of this type very difficult despite the fact that in many cases they held honors degrees in the subjects they were attempting to teach. None of them had attempted to do such a thing in the past and the exercise was a revelation that taught them things about their subject they had not fully understood before.

The point at which the greatest impact was made was when they used their

analysis in their teaching. Time and time again teachers found they had misconstrued the nature of familiar concepts and attributed their errors to the fact that they had not made satisfactory conceptual analyses.

The message that comes across loud and clear is that teaching is far from a simple skill that anyone who can stand and deliver can perform. Any of the teachers who struggled with their analyses could have found jobs more highly esteemed by the detractors of the profession. Even in management and business!

Resistance to change

Although the work I have been describing was of a different type and involved teachers from the beginning, the disjuncture between teachers' and student teachers' experience was too acute for them to make an easy transition. Typically the view of teaching as delivering by talking was so overpowering that exploration of deeper processes was often seen as the unnecessary imposition of complexity.

Experienced teachers had the serious prob'em of having the way they had been teaching in the past challenged and they resisted. Student teachers, having been exposed to the delivery mode of teaching all their school and university lives had an idea of teaching that was being radically questioned by a different approach.

As one might expect, some adapted and became committed quicker than others. The ones that remained skeptical longest included one quite hostile graduate student and one experienced teacher that didn't really understand the point. The first one commenting in an evaluation at the end of his course said that at first he couldn't see the relevance of psychopedagogy to teaching. He later realised that this was because he didn't really understand and 'his natural defense mechanisms dismissed the subject as unimportant and futile' He later did see the point and completed a very competent study of his own teaching along the lines I mentioned earlier. The experienced teacher took about a term while he wondered if he was on the right course but he also eventually became quite enthusiastic.

Work with teachers on a short program of school based staff development revealed the same problem. The difficulty of pedagogical analysis and the gap between their current practice and an analytical pedagogy was difficult to bridge in a short space of time. All saw the value of recording their lessons and discussing them later, but some did not come to realize that the key to understanding was the pre and post analysis.

Given the current views of teaching and lack of attention to pedagogy, it is not surprising that problems of adaptation arise. Unlike reform by fiat, the kind of changes that I have been talking about cannot be imposed. For them to be accepted they must be seen by teachers to be useful and valid ways of

improving their work. Change of this type cannot be easily disseminated as has been discovered over the last twenty years. Curriculum innovations devised by outside agencies all too often ran into the sand and problems of dissemination were seen to be at least as important as the development of new curricula.

No amount of directives from above could have done anything to change this state of affairs. Only change in the way people think about teaching will bring about lasting ameliorative reform. And legislation cannot change peoples' minds even though it may enforce token compliance with its edicts.

Teacher ingenuity and creativity

Difficulties of adaptation were largely overcome when sufficient time was available. In these conditions teachers produced some very impressive work. Among the majority of teachers who became committed to the approach many changed their teaching radically. They found new tools to help them to accomplish their aims and worked creatively and with great ingenuity marrying their knowledge of the subjects and the pupils they were teaching. Some of the most interesting work came from in service teachers whose projects extended over a longer period than the student teachers.

Elegance

Among them was one whose experiment was the teaching of orienteering to pupils of about 13 years old. His aim was to teach his pupils to solve problems of route choice in orienteering in the forest. His particular contribution was to move a step beyond the aim set for all the teachers, namely that the pupils should be able to solve novel problems. He introduced the idea of elegance of solution. I find this an encouraging and enriching contribution to our view of teaching.

Another interesting contribution came from a teacher teaching pupils of about twelve the concept of melody. He aimed to teach pupils who were not especially interested in music to compose novel melodies. His approach was a model example of analytical pedagogy that made use of principles of human learning. This analytical approach enabled pupils to produce interesting and personal melodies which were much superior to those produced by pupils taught by conventional show and tell methods which were stereotyped and resembled those that had been used by the teacher previously.

Conclusion

I have argued that productive reform in teacher education must comprise the development of a rigorous practical pedagogy. I have suggested that current

research and practice in teaching and teacher education are deeply flawed. The main reason for this is the continuing view of teaching as delivery and of learning to teach by imitation and a view of research that looks at the way teaching is rather than the way teaching might or should be.

I suggest that the espousal of a view of teaching and research such as I have suggested would enable us to begin to comprehend the inherent enormous complexity of teaching and help us to improve it in more radical ways than any messing about with structures.

Apart from the intrinsic merits of a systematic analytical theory-related approach such as I have argued for, there is one other very important point. I said earlier that I had been in the uncomfortable position of being highly critical of training institutions because of their lack of attention to pedagogy while at the same time being convinced of the need for a systematic teacher education. I felt that the attacks on the institutions had in some cases an element of truth. Defenders were, therefore, vulnerable.

I believe that a rigorous, theory based practical pedagogy would strengthen the case of the institutions against the attacks made on them. It would also equip teacher educators to rebut and expose the arguments of their critics more effectively than they seem to be able to do at the moment. It is very discouraging to observe institutions and individuals accepting the pronouncements on the reform of education and teacher education from politicians and civil servants with little challenge. It is a sad reflection on our times and an indication of the difficulty of reforming the deep structures of teaching and teacher education that the most heavily subscribed INSET courses in UK are the courses on management. The profession has accepted the simplistic views of teaching with little demur.

As to courses in pedagogy: they are virtually non-existent. While there is no guarantee that teacher education would be impregnable were the training institutions to develop the rigorous approach I have argued for, I am convinced that there would be a greater degree of confidence and cogency in the defense that could be mounted were it to exist.

Followers of fashion

One particular weakness that a rigorous pedagogy would help to dispel is the compulsive following of fashion. Few papers arrive at the JET office these days without 'reflection' in their titles or sprinkled over the text, Running 'reflection' a close second in frequency of use if not of salience, is 'delivery'. 'Metaphor' and 'story' are coming up on the outside and the smart money must be on them. 'Model' is still in the running and may well be in strong contention should the front runners run out of steam.

Not that I am against reflection and the use of metaphors and I am very fond

of stories. What worries me is a suspicion that some authors might first reach for the cliches and then write their stories around them. This kind of activity often has a counterpart in college work and plays right into the hands of those who favor the disestablishment of teacher education.

Although fashions come and go, one thing abides, the monolithic school experience and learning to teach by imitation. The abolition of this primitive practice totally depends on the development of a rigorous pedagogy. Such things as course structures and location of training are of little importance compared to this. Of course, the logic of my argument implies a reconceptualisation of the practical teaching element in courses of teacher training that is incompatible with current undifferentiated views of teaching practice.

By the same token teaching itself is reconceptualised. It is possible to see it, as I argued, as one element in a form of action research. Research becomes systemic to teaching. But only if the teachers are equipped to understand and analyze teaching and motivated to continue in this way as part of their jobs.

My experience indicates that many teachers are so motivated. There is also plenty of evidence that most teachers enter the profession with altruistic aims in mind and this suggests a potential for such motivation. But the teachers will need good evidence that any research they engage in will help them in their teaching. The evidence will be seen as they feed back what they discover about their teaching into future practice in a benign cycle of development.

Teachers with an enhanced understanding of human learning and teaching and the assessment of both will be in a better position individually to resist the imposition of anti-educational dictat from outside. For example, if teachers were knowledgeable about the theory of testing and conceptual learning, they would be less likely to act merely as intermediaries between professional test agencies working to government orders and their pupils. Creative subversion is, unfortunately, an important aspect of teacher competence as I would define it in current circumstance. A deeper knowledge of pedagogical principles would equip them to become more adept at protecting their pupils from anti-educational activities.

Work such as I have been describing is very difficult. It is challenging but exciting. It demands of most people the learning of new skills, both cognitive and personal interactive. If my point about the complexity of human learning is taken, the difficulty of teaching in this way is to be expected and embraced as a challenge. The social benefit of the widespread acceptance of its desirability would complete Emerson's aphorism which reads in full: 'Every reform was once a private opinion, and when it shall be a private opinion again it will solve the problem of the age'.

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